1942.

NEW ZEALAND.

DEPARTMENT OF LANDS AND SURVEY.

RANGITAIKI LAND DRAINAGE.

REPORT FOR THE YEAR ENDED 31ST MARCH, 1942.

Presented to both Houses of the General Assembly in pursuance of Section 10 of the Rangitaiki Land Drainage Act, 1910.

SIR,— Department of Lands and Survey, Wellington, 1st July, 1942.

I have the honour to submit herewith the report of the Chief Drainage Engineer on drainage operations on the Rangitaiki Plains for the year ended 31st March, 1942, pursuant to the provisions of the Rangitaiki Land Drainage Act, 1910.

I have, &c.,
R. G. MACMORRAN,
Under-Secretary for Lands.

The Hon. the Minister of Lands.

REPORT OF THE CHIEF DRAINAGE ENGINEER.

SIR,—

In accordance with the provisions of the Rangitaiki Land Drainage Act, 1910, I have the honour to submit the report of the works carried out on the Rangitaiki Plains during the year ended 31st March, 1942.

The rainfall recorded at Thornton was 42·74 in. for the year 1941 and 33·48 in. for the year ended 31st March, 1942. Rain fell on eighty-eight days. The wettest month was January, 1941, with a fall of 7·26 in., and the driest month February with a fall of 0·58 in. The average rainfall at Thornton over a period of twenty-four years has been 51·36 in.

Dry summer weather affected production, and the farm output for the year, though satisfactory, has been below that of last year, which was a record for the district. The Rangitaiki Plains Dairy Co., which handles a large portion of the dairy-produce of the district, manufactured 3,877 tons of butter and 864·5 tons of cheese between the 1st April, 1941, and 31st March, 1942. During the previous twelve months the output of butter was 5,064·5 tons. The manufacture of cheese was commenced in September last in a factory expeditiously established in buildings formerly used for flaxmilling situated on the west bank of the Whakatane River, near Whakatane.

The Department maintains 158 miles of drains and canals in the Rangitaiki district, and this work requires a considerably augmented labour force during the fall of each year. Labour shortage due to war demands on man-power has increased the difficulty in meeting this seasonal demand, and though it has not been possible to carry out the full programme of work, the drainage system has been efficiently maintained throughout the year.

In addition to seasonal cleaning of drains by manual labour, considerable improvement of large drains, canals, and stop-banks has been effected by mechanical excavators during the past four years. Details of the work carried out during the year under review by the excavating-plant are given below :—

No. 17 Monighan Drag-line Excavator completed the deepening of the Waioho Stream, above Titoki Road Bridge, in April, 1941, and after crossing the stream on a temporary bridge travelled under its own power to Whakatane West Railway-station, where the machine was dismantled, loaded on trucks, and railed to Otakeri Station. From here, after reassembly and repairs, the machine travelled across country, crossing the Omeheu drain by means of a temporary bridge on the 4th September. Working down-stream on the left bank of the Omeheu Canal, the machine reconditioned 126 chains of canal between the railway and Gows Road. This together with 9 chains of the Waioho Stream completed, makes the output for this machine 43,500 cubic yards for the year.

No. 30 Bay City Drag-line Excavator.—After completing the stop-bank on the right bank of the Tarawera River between the railway and Factory Road, this machine was moved to the Thornton Depot for overhaul in April, 1941. It resumed work on the Tarawera River in June and, working on the right bank down-stream from the railway, has reconstructed the stop-bank for a distance of 109 chains. The year's output for this machine was approximately 36,700 cubic yards.

No. 31 Ruston Bucyrus Drag-line Excavator.—During the period April to October, this machine completed 27 chains of heavy stop-bank reconstruction on the right bank of the Tarawera River, terminating in high country 100 chains above the Factory Road. The plant was then railed from Otakeri Station to the Hauraki Plains. At Rangitaiki this machine excavated and placed 22,400 cubic yards of material.

No. 32 Ruston Bucyrus Drag-line Excavator.—Between April and September this machine deepened the Orini Stream for a distance of 42 chains down-stream from the Eastern Drain Junction, and for a period of over two months was employed opening the Rangitaiki River mouth. Between October and February the excavator widened and deepened 95 chains of the lower end of the Eastern Drain and 109 chains of Platts Drain. After overhaul the machine was railed to the Waihi Drainage District in March. While working at Rangitaiki the machine excavated 33,000 cubic yards.

Tarawera River.

The reconstruction of the stop-banks on the eastern bank of the river will be completed in the near future. A break in the western river-bank, which might have resulted in a permanent change of the river-course occurred this year. The river-banks of pumice sand are above the level of the surrounding land and erosion caused by prolonged or concentrated overflow will, if unchecked, cut a new channel for the river through the elevated river-bank into the basin-shaped area between the Matata Hills and the river. This would cause the flooding of a considerable area of grazing-land and interrupt road and railway communications. The work involved in restoring the river to its original course would be difficult and costly. The increasing frequency with which these breaks occur emphasizes the need for efficient stop-banks on the left bank of the river.

Rangitaiki River.

The removal of the willows from the banks of the lower reaches of the river has greatly increased the efficiency of the channel. This work, commenced in 1936, has now been completed to a point 3 miles 30 chains above the railway bridge at Edgecumbe, and 1 mile 38 chains of river-bank has been cleared this year.

During July and August unsuccessful attempts were made to open a direct outlet from the river to the sea through a sand-spit which has forced the river-mouth eastwards for a distance of approximately 60 chains. Since the direct outlet was restored in June, 1938, low-water mark has moved seawards about 3 chains, and this accretion has not only increased the width of the sand-spit through which the new channel must be excavated from 4 to 7 chains, but has also greatly increased its height. Though the direct outlet of the river to the sea was established several times and continued in operation on one occasion for a period of three days, wave-carried sand repeatedly blocked the new channel, and work was discontinued until conditions are more favourable.

Summary.

The principal works carried out during the year are summarized below :—

	Miles.	Ch.	Excavation. Cubic Yards.
Drains cleaned by manual labour	130	25	..
Drains and canals cleaned by weed cutting launch	14	34	..
Drains widened and deepened by manual labour	1	13	1,500
Drains, canals, and streams improved with excavators	5	18	76,300
Stop-banks reconstructed or repaired with excavators	1	67	59,000
River and stream banks cleared of willows	2	40	..

	£	s.	d.
Net maintenance expenditure	8,034	0	0
Rates struck—			
Special	10,782	0	0
General	6,192	0	0
Rates collected—			
Special	16,383	0	0
General	10,254	0	0

I have, &c.,

R. L. Innis,

The Under-Secretary for Lands, Wellington. Chief Drainage Engineer.

STATEMENT OF ACCOUNTS.

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